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## Floristic and medicinal plant survey at ahobilam forest of Kurnool district, Andhra Pradesh, India

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### Abstract

The major aim of the rapid survey was to prepare an inventory of Medicinal plants of Ahobilam Reserve forest of Nallamalais of Eastern Ghats. The present paper is an outcome of a rapid vegetation survey conducted during the year 2016-2017. Medicinal plants represent not only a valuable part of India's biodiversity but also a source of great knowledge. Over 102 plant species belonging to 40 Dicot families, 07 Monocot families and 06 Pteridophyte families were recorded. Among 40 Dicot families 10 dominant families are Malvaceae, Caesalpinaceae, Fabaceae, Sterculiaceae, Capparaceae, Combretaceae, Acanthaceae, Burseraceae, Minispermaceae and Cucurbitaceae

**Keywords:** Ahobilam Rf, Nallamalais, Caesalpinaceae, Floristic

### 1. Introduction

India contains about 8% of world's biodiversity. India abounds in a wealth of complex and diverse ecosystems exhibiting a great deal of variation. Natural resources survey like floristic study plays an important role in the economic development of developing country like India. Forests constitute one of the richest natural resources of the world on which depends the well-being and prosperity of not only mankind but the entire animal kingdom. Forest is the store house of both flora and fauna. In this 21st century we are facing of 'civilization dominating the forest' involving self-destruction of forests. Floristic study is a necessary prerequisite for much fundamental research in tropical community ecology, such as modeling patterns of species diversity or understanding species distributions<sup>[6]</sup>. Floristic studies acquire increasing importance in recent years in response to the need of developing and under developing countries to assess their plant wealth<sup>[13]</sup>. These forests are disappearing at alarming rates owing to deforestation for extraction of firewood and other forest products. The problem with the chronic form of forest disturbance is that plants or ecosystem often do not get time to recover adequately because the human onslaught never stops<sup>[9]</sup>. Floristic studies help us to assess the plant wealth and its potentiality of any given area. Floristic studies also help us to understand the basic aspects of biology such as speciation, isolation, endemism and evolution. Flora of any area is not fixed up. It changes from time to time. Various ecological factors, mostly biotic, change the floristic components. Understanding of forest structure is a pre-requisite to describe various ecological processes and also to model the functioning and dynamics of forests<sup>[1]</sup>.

Ellis<sup>[2]</sup> in Flora of Nallamalais recorded 743 taxa under 109 families. The importance of studying local floristic diversity has been realized and carried out in forest of Kurnool district by Sudakar Reddy *et al.*<sup>[10]</sup>, Sudhakar Reddy *et al.*,<sup>[11, 12]</sup> Silar Mohammed *et al.*<sup>[8]</sup>. Recently G. Meerabai and B. Padmavathi<sup>[4]</sup>, conducted the inventorying of angiosperm diversity of forest of Kurnool district.

Ahobilam, one of the famous temple sanctity area of South India (Fig.1), is located in Andhra Pradesh. The Ahobilam forest is divided into upper and lower Ahobilam. It is situated between long. 78°23'—78°56'E and lat. 14°55'—15°24'N. It has an average elevation of 327 meters (1076 feet) Rainfall averages about 90 cm and is concentrated in the months of the South West Monsoon (June–Sept). According to Hindu mythology, Lord Narasimha is present in nine forms in nine temples which are on the hill ranges of Ahobilam forest. Ahobilam is a catchment area of the Nallamalais Reserve Forest of the Eastern Ghats. It attracts several devotees from different states. The forest is rich in floristic diversity. The Ahobilam forest is a dry deciduous forest about 800 m amsl, luxuriant in vegetation and enriched with many

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Medicinal, rare, endemic and threatened categories of plants. The present paper attempts to highlight the diversity of vast plant resources of Western Ghats.

The climate is characteristically dry. The average annual rainfall in the forest is 688.5m m, while lowest rainfall was 391.5 mm recorded in the Year 2007. The Ahobilam forests cab be divided into Southern tropical moist deciduous forest. Southern tropical dry deciduous forests. Southern tropical thorn forest.



Fig 1: Ahobilam Temple



Fig 2: Ahobilam Forest

**Materials and Methods**

An floristic survey was carried out in Ahobilam Forest (Fig.2) of Kurnool district The Ahobilam Reserve forest are a part of

Eastern Ghats having rich vegetation and lie between the eastern longitudes of 76°58’ to 78°56’ N and northern latitudes of 14°54’ to 16°14’. Plant specimens have been collected from all over Ahobilam Reserve forest through several field trips covering all seasons during 20151 – 2017. Herbarium voucher specimens are deposited in Department of Botany at Osmania UG & PG College, Kurnool Aandhra Pradesh, India. The Medicinal plants were identified by the local people with their vernacular names, photographed and sample specimens were collected for the preparation of herbarium. The Flora of Kurnool by Raju and Pullaih 1997 [7] was used to ascertain the nomenclature In the enumeration, data were tabulated and arranged in the sequence of serial number, botanical name, family, vernacular name, habit, phenology and voucher number. Emphasis has also been given to the economically important species particularly the medicinal plants used as primary health-care.

**Results and Discussion**

A total of 102 wild and naturalized important plant species, belonging to 47 families have been collected and deposited in the herbarium at Osmania College, Kurnool. The study was undertaken from June 2015 to May 2017, for 11 days covering almost all seasons in one year. The following plants are worthy of mention.

A total of 112 species recorded. Habit analysis (Table.1) shows that herbs are represented by 39 species including climbers, shrubs by 32 species and trees by 41 species (Table. 2). Out of 48 families recorded from the study area, 10 dominant families are Malvaceae (9 species), Caesalpiniaceae (8 species) Fabaceae (7 species), Sterculiaceae (7 species), Combretaceae (6 species), Acanthaceae (6 species), Bursaceae (6species), Minispermaceae (5 species), Cucurbitaceae (4 species).

Table 1 Floristic diversity in Habit

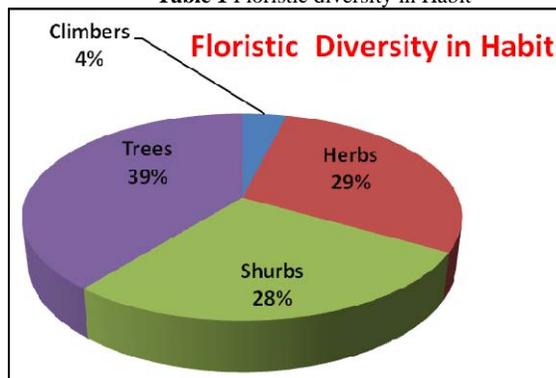
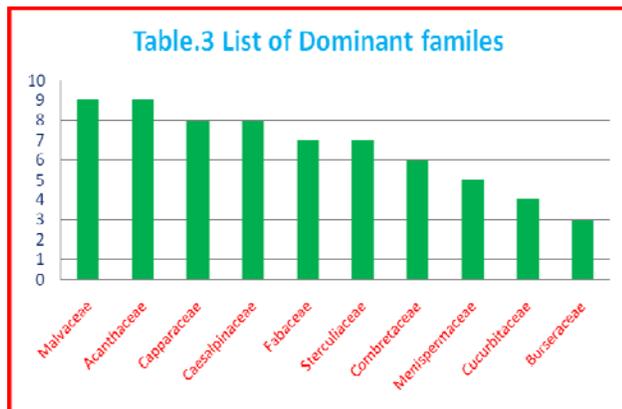


Table 2: Taxonomic account of Floristic Diversity

Taxonomic group	Families	Genus	Species	Herbs	Shurbs	Trees	Climbers
Angiosperms							
Dicots	40	78	103	31	28	41	4
Monocots	7	10	10	5	4	1	0
Pteridophytes	6	6	6	6	0	0	0



### Medicinally Important Plants

Plants have been used by man for both prevention and cure of various diseases [3, 5]. The present study identifies 102 medicinal plants locally used by the people of tribal people of Ahobilam forest for the treatment of at least 30 common diseases and some of the important diseases are diabetes, jaundice, diarrhoea, dysentery, cold and cough, asthma, fever, spleen and snake bite, Leucoderma, Bone fracture, Cancer, Wounds and several skin diseases. The following plants which are source of antidiabetic drugs' are present in the forest: *Pterocarpus marsupium* Roxb., *Andrographis paniculata* Wa Hex Nees. *Tinospora cordifolia* (Willd) Hook. f & Thorns and *Aerva sanguinolenta* (L.) Blume 'The other medicinal plants in- clude *Pseudarthria viscida* (L.) Wt & Arn (Aphrodisiac), *Rhinacanthus nastus* (L.) Kurz. (anti tumour) and *Mallotus philippensis* Mueill. Arg' (oral contracep tive, antifertility). Some of the endemic and economically potential plants are *Pterocarpus santalinus* L., a global endemic (restricted to Kurnool and Kadapa districts of A.P) and North Arcot of TN, *Desmodium pulchellum* Hum (L.) Benth and *Pterospermum xylocarpum* (Gaertn) Sant & Wagh, which are local endemics. To make a consolidated and up-to-date account of the flora, a region wise systematic botanical survey is essential. This will help to compile the knowledge of country's present plant wealth with emphasis on distribution and status.

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